CLAIM SUMMARY DOCUMENT

The following listing of claims will replace all prior versions and listings of claims in this application.

1. (Currently Amended) A method for power matching in an electricity grid ~~(N)~~, the grid comprising at least two ~~or more~~ power generating plants ~~(G1 ... G3)~~ supplying power output into the grid, ~~and~~ at least two ~~or more~~ power loads ~~(M1 ... M8)~~ consuming power from the grid, ~~and~~ at least one storage plant ~~(S)~~, ~~comprising:~~ at least one storage volume, ~~(100);~~ at least one power generating machine ~~(T)~~ for operation with an energy storage fluid which is stored in the storage volume, ~~and which~~ the power generating machine ~~is~~ being connected to a generator ~~(GS)~~ which supplies electrical power during operation, ~~;~~ at least one power consuming machine ~~(V)~~ for feeding energy storage fluid into the storage volume, the power consuming machine ~~is~~ being connected to a motor ~~(MS)~~ which consumes electrical power during operation, ~~;~~ wherein, in a first operating state, an overall power supply includes the sum of the power output supplied from ~~by~~ all the power generating plants and from the power generating machine and equals an overall power consumption that includes the sum of the power which is consumed by all the power loads and by the power consuming machine, such that the grid is in equilibrium,
~~characterized in that,~~ comprising:

upon a sudden change in power demanded from the storage plant, controlling the power consumption of the power consuming machine ~~in the storage plant is controlled~~ such as to maintain the equilibrium between the overall power consumption and the overall power supply ~~within~~ into the grid, and

changing the power consumption of the power consuming machine in a direction opposite to the direction taken during controlling, with the changing in the power consumption being carried out slower than during controlling, and

the changing being at least partially compensated for by changing the power output of the power generating machine, such that,

when an initial rise occurs in the power demand, the power consumption of the power consuming machine is reduced, and the power output of the power generating machine is successively increased with the power consumption of the power consuming machine being increased, and

when an initial drop occurs in the power demand, the power consumption of the power consuming machine is increased, and the power output of the power generating machine is successively reduced with the power consumption of the power consuming machine being reduced.

2. (Currently Amended) The method as claimed in ~~one of the preceding claims~~ claim 1, ~~characterized in that~~ further comprising:

carrying out ~~the~~ power matching ~~is carried out in a first step in~~ by controlling the power consumption ~~(P_)~~ of the at least one power consuming machine ~~machines~~ ~~(V)~~ in the at least one storage plant ~~plants (S)~~ and any frequency response capabilities which may be present, wherein the power output from the at least one power generating machine ~~machines~~ ~~(T)~~ of the at least one storage plant ~~plants~~ and other power plants connected to the grid is maintained constant.

3. (Currently Amended) The method as claimed in claim 1, wherein ~~one of the preceding claims, characterized in that the~~ power consumption ~~(P_)~~ of the power consuming machine ~~(V)~~ is reduced when ~~a~~ one of the power generating plants ~~plant (G1 ... G3)~~ is disconnected from the grid or when ~~a load (M1 ... M8)~~ one of the loads is connected to the grid.

4. (Currently Amended) The method as claimed in claim 3, wherein ~~characterized in that~~ the drive motor ~~(MS)~~ for the power consuming machine ~~(V)~~ is completely disconnected from the grid.

5. (Currently Amended) The method as claimed in ~~one of claims 3 or 4~~ claim 1, ~~characterized in that, in a further step, the power output from the power generating machine (T)~~

~~in the storage plant and/or from at least one power generating plant (G1 ... G3) is increased while, at the same time, the power consumption of the power consuming machine (V) in the storage plant is increased, with the equilibrium between the power output and the power consumption in the grid being maintained~~ wherein power consumption of the power consuming machine is increased when one of the loads is disconnected from the grid or is rapidly deloaded.

6. (Currently Amended) The method as claimed in ~~one of claims 1 or 2~~ claim 1, further comprising: ~~characterized in that, the power consumption (P_{-}) of the power consuming machine (V) is increased when a load (M1 ... M8) is disconnected from the grid or is rapidly deloaded~~

operating the at least one power consuming machine in the at least one storage plant at at least 80% of its maximum power consumption in order to maintain a maximum power dynamic response, and

synchronizing and connecting the generator of the at least one power generating machine in said storage plant to the grid, and operating the power generating machine at a minimum permissible power.

7. (Currently Amended) The method as claimed in claim 6, further comprising: ~~characterized in that in a further step, the power output from the power generating machine (T) in the storage plant and/or at least one power generating plant (G1 ... G3) is increased, and the power consumption of the power consuming machine (V) in the storage plant is increased at the same time, with the equilibrium between the power output and the power consumption in the grid being maintained~~

operating the power generating machine at less than 20% of its maximum power output.

8. (Cancelled)

9. (Cancelled)

10. (New) The method as claimed in claim 2, wherein power consumption of the power consuming machine is reduced when one of the power generating plants is disconnected from the grid or when one of the loads is connected to the grid.

11. (New) The method as claimed in claim 10, wherein the drive motor for the power consuming machine is completely disconnected from the grid.

12. (New) The method as claimed in claim 2, wherein power consumption of the power consuming machine is increased when one of the loads is disconnected from the grid or is rapidly deloaded.

13. (New) The method as claimed in claim 2 further comprising,

operating the at least one power consuming machine in the at least one storage plant at at least 80% of its maximum power consumption in order to maintain a maximum power dynamic response, and

synchronizing and connecting the generator of the at least one power generating machine in said storage plant to the grid, and operating the power generating machine at a minimum permissible power.

14. (New) The method as claimed in claim 3 further comprising,

operating the at least one power consuming machine in the at least one storage plant at at least 80% of its maximum power consumption in order to maintain a maximum power dynamic response, and

synchronizing and connecting the generator of the at least one power generating machine in said storage plant to the grid, and operating the power generating machine at a minimum permissible power.

15. (New) The method as claimed in claim 4 further comprising,

operating the at least one power consuming machine in the at least one storage plant at at least 80% of its maximum power consumption in order to maintain a maximum power dynamic response, and

synchronizing and connecting the generator of the at least one power generating machine in said storage plant to the grid, and operating the power generating machine at a minimum permissible power.

16. (New) The method as claimed in claim 5 further comprising,

operating the at least one power consuming machine in the at least one storage plant at at least 80% of its maximum power consumption in order to maintain a maximum power dynamic response, and

synchronizing and connecting the generator of the at least one power generating machine in said storage plant to the grid, and operating the power generating machine at a minimum permissible power.

17. (New) The method as claimed in claim 13, further comprising:

operating the power generating machine at less than 20% of its maximum power output.

18. (New) The method as claimed in claim 14, further comprising:

operating the power generating machine at less than 20% of its maximum power output.

19. (New) The method as claimed in claim 15, further comprising:

operating the power generating machine at less than 20% of its maximum power output.

20. (New) The method as claimed in claim 16, further comprising:

operating the power generating machine at less than 20% of its maximum power output.

21. (New) The method as claimed in claim 6, further comprising:
operating the power generating machine at less than 10% of its maximum power output.

22. (New) The method as claimed in claim 13, further comprising:
operating the power generating machine at less than 10% of its maximum power output.